Claims 1 - 19 are cancelled.

20. (Previously Presented) An optical system comprising:

a first optical element, said first optical element having a focal point,

a further optical element,

compensating elements,

said first optical element is connected to said further optical element by means of a mounting and said compensating elements,

said first optical element and said further optical element defining an axial direction,

said compensating elements being arranged in a region of said first optical element providing thermal conductivity from said first optical element to said compensating elements so that said compensating elements undergo approximately a same temperature change as said first optical element, and

said compensating elements having a length in said axial direction and being made from a material so as to displace said further optical element from said first optical element in a same amount as a displacement of said focal point occurs because of a heating of said first optical element.

21. (Previously Presented) The optical system of claim 20, wherein at least one of said first and further optical element comprises a lens.

22. (Previously Presented) The optical system of claim 20, wherein said mounting comprises a material of a density of at least 2.5×10^3 kg/m^3.

23. (Previously Presented) The optical system of claim 20, wherein said compensating elements have a thermal expansion coefficient deviating from that of the mounting.

24. (Previously Presented) An optical system comprising:

a first optical element,

a further optical element,

compensating elements,

said first optical element being connected to said further optical element by means of a mounting and said compensating elements,

said first optical element and said further optical element defining an axial direction,

said compensating elements being arranged in a region of said first optical element providing thermal conductivity from said first optical element to said compensating elements so that said compensating elements undergo approximately a same temperature change as said first optical element, wherein said compensating elements provide due to a heating of said first optical element a displacement of said second optical element from said first optical element in said axial direction, and

wherein said compensating elements comprise at least partly titanium.

25. (Previously Presented) The optical system of claim 24, wherein at least one of said first and further optical element comprises a lens.

26 (Previously Presented) The optical system of claim 24, wherein said mounting comprises a material of a density of at least 2.5×10^3 kg/m^3.

27 (Previously Presented) The optical system pf claim 24, wherein said compensating elements have a thermal expansion coefficient deviating from that of the mounting.

28 (Withdrawn) An optical system comprising:

a primary mirror,

a secondary mirror,

compensating elements,

said primary mirror being connected to said secondary mirror by means of a mounting and said compensating elements,

wherein said mounting comprises a telescope tube comprising an end facing said primary mirror and an end facing said secondary mirror, and

wherein said compensating elements comprise at least three feet that at one end carry said end of said telescope tube facing said primary mirror, and at another end are connected to said primary mirror.

29. (Withdrawn) The optical system of claim 28, wherein said mounting comprises a material having a density of at most 2.5×10^3 kg/m^3

30. (Withdrawn) The optical system of claim 28, wherein said compensating elements have a thermal expansion coefficient deviating from that of said mounting.

31. (Withdrawn) The optical system of claim 28, wherein said mounting comprises C/C SiC material.

32. (Withdrawn) An optical system comprising:

a primary mirror,

a secondary mirror,

compensating elements,

said primary mirror being connected to said secondary mirror by means of a mounting and said compensating elements,

wherein said mounting comprises a telescope tube comprising an end facing said primary mirror and an end facing said secondary mirror, and

wherein said compensating elements comprise a ring that at one end carries said end of said telescope tube facing said primary mirror, and at another end is connected to said primary mirror.

33. (Withdrawn) The optical system of claim 32, wherein said mounting comprises a material having a density of at most 2.5×10^3 kg/m^3

34 (Withdrawn) The optical system of claim 32, wherein said compensating elements have a thermal expansion coefficient deviating from that of said mounting.

35 (Withdrawn) The optical system of claim 32, wherein said mounting comprises C/C SiC material.

36. (Previously Presented) An optical system according to claim 20, wherein the mounting (15, 115) comprises C/C SiC material.

37. (Previously Presented) An optical system according to claim 20, wherein the optical system is a telescope, as is used in orbit.

38. (Previously Presented) An optical system according to claim 20, wherein the compensating elements are connected on one side with the mounting and on the other side with the mirror mounting.

39. (Previously Presented) An optical system according to claim 20, wherein the compensating elements are connected on one side with the mounting and on the other side with the mirror member.

40. (Previously Presented) An optical system according to claim 20, wherein the first optical element has a mirror carrier made of Quartz or SiN.

41. (Previously Presented) An optical system according to claim 20, wherein in the case that a mirror carrier comprises Quartz the compensating element at least partially comprises titanium.

42. (Previously Presented) An optical system according to claim 20, wherein in the case that a mirror carrier comprises SiN the compensating element comprises at least partially aluminum or titanium.

43. (New) An optical system, comprising

at least a first optical element and second optical element, the first optical element and the second optical element being arranged at a predetermined distance from each other by means of a mounting,

and compensation elements (19, 119) for a temperature-dependent change of the predetermined distance (29, 129) between the first optical element (3, 103) and the second optical element (27, 127), the mounting being produced from a material of density of at most 2.5×10^3 kg/m^3.

44. (New) The optical system according to claim 43, wherein at least one of the first optical element and the second optical element (3, 27) comprises a mirror.

45. (New) The optical system comprising

a mirror comprising a mirror member carrying a surface, which mirror member is connected to a further optical element by means of a mounting (15, 115) and compensation elements (19, 119),

wherein with a mirror member comprising quartz, the compensation elements comprise at least partially titanium, and with a mirror member comprising SiN the compensation elements comprise at least partially aluminum or titanium, and with a mirror carrier comprising Zerodur the compensation elements comprise at least partially invar.

46. (New) The optical system according to claim 43, wherein at least one of the optical elements comprises a lens.

47. (New) The optical system according to claim 43, wherein the optical system comprises a telescope, the first optical element comprises a primary mirror (103) of the telescope (101) and the second optical element comprises a secondary mirror (127) of the telescope (101).

48. (New) The optical system according to claim 45, wherein the mounting comprises a material of density of at most 2.5×10^3 kg/m^3.

49. (New) The optical system according to claim 43, wherein the compensation elements (19, 119) are arranged in a region of at least one of the optical elements (3, 27, 103, 127), coaxially of an optical axis (2, 102) defined by the optical elements (3, 27, 103, 127).

50. (New) The optical system according to claim 47, wherein the compensation elements (119) are arranged coaxially of the primary mirror (103).

51. (New) The optical system according to claim 47, wherein the mounting comprises a telescope tube comprising an end facing the primary mirror and an end facing the secondary mirror, wherein the compensation element (119) comprises at least three feet (121) that at one end carry an end of the telescope tube (17) facing the primary mirror (103), and at another end are connected to the primary mirror (103).

52. (New) The optical system according to claim 51, wherein the compensation elements are supported on a mirror carrier (105) carrying the mirror surface (107) of the primary mirror (103).

53. (New) The optical system according to claim 43, wherein the compensation elements (19, 119) have a thermal expansion coefficient deviating from that of the mounting (15, 115).

54. (New) The optical system according to claim 44, wherein the mirror (3, 103) comprises a mirror member (5) comprising SiN carrying a mirror surface (7, 107).

55. (New) The optical system according to claim 43, wherein the mounting (15, 115) comprises C/C SiC material.

56. (New) The optical system according to claim 54, wherein the mirror member (5, 105) is connected directly to a mounting element (9, 109) for isostatic mounting, and the mounting (15, 115) is mounted to the mirror member (5, 105).